



**HAMRE, SCHUMANN,  
MUELLER & LARSON, P.C.**  
AN INTERNATIONAL INTELLECTUAL PROPERTY LAW FIRM

FAX TRANSMISSION July 1, 2008

TO: Mail Stop: PETITION  
Examiner: FLOOD  
Commissioner for Patents  
PO Box 1450  
Alexandria, VA 22313-1450

FROM: Douglas P. Mueller

OUR REF: 20010.0007USWO

TELEPHONE: (612) 455.3800

Total pages, including cover letter:

(15)

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PTO FAX NUMBER: 571.273.8300

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Title of Document: REQUEST FOR WITHDRAWAL OF HOLDING OF ABANDONMENT (2 PAGES); COPY OF RESPONSE ORIGINALLY FILED MAY 20, 2008 (9 PAGES); COPY OF PTO AUTO-REPLY FACSIMILE TRANSMISSION (1 PAGE); COPY OF NOTICE OF ABANDONMENT (2 PAGES)

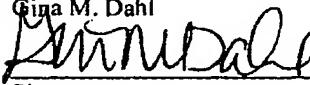
Applicant: BRIAND et al.  
Serial No.: 10/594692  
App. Filed: May 31, 2007  
Group Art No.: 1655  
Conf. No.: 9463

Please charge any additional fees or credit overpayment to Deposit Account No. 50-3478. Please consider this a PETITION FOR EXTENSION OF TIME for a sufficient number of months to enter these papers, if appropriate.

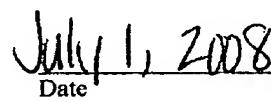
By:   
Name: Douglas P. Mueller  
Reg. No. 30,300

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Gina M. Dahl



Signature

  
Date

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S/N 10/594692

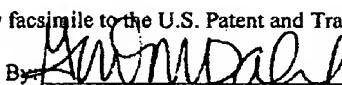
PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	BRIAND ET AL.	Examiner:	FLOOD
Serial No.:	10/594692	Group Art Unit:	1655
Filed:	May 31, 2007	Docket No.:	20010.0007USWO
Title:	USE OF ULVANS AS ACTIVATORS OF PLANT DEFENCE AND RESISTANCE REACTIONS AGAINST BIOTIC OR ABIOTIC STRESSES		

CERTIFICATE UNDER 37 CFR 1.6(d):

I hereby certify that this paper is being transmitted by facsimile to the U.S. Patent and Trademark office on July 1, 2008.

  
By \_\_\_\_\_  
Name: Gina Dahl

REQUEST FOR WITHDRAWAL OF HOLDING OF ABANDONMENT

Mail Stop Petition  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

Applicants hereby petition to withdraw the holding of abandonment in this case, on the basis that a response to the Office Action dated November 20, 2007 was filed with the Patent Office on May 20, 2008. A copy of the response (originally filed May 20, 2008), along with the PTO facsimile transmission confirmation is enclosed. A copy of the Notice of Abandonment is also enclosed.

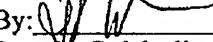
Serial No.: 10/594,692  
Page 2 of 2

PATENT

The holding of abandonment was due to a Patent Office error, therefore Applicants believe no fee is due for this petition. Please charge any additional fees or credit overpayment to Deposit Account No. 50-3478.

Respectfully submitted,

HAMRE, SCHUMANN, MUELLER &  
LARSON, P.C.  
P.O. Box 2902  
Minneapolis, MN 55402-0902  
(612) 455-3800

By:   
Douglas P. Mueller  
Reg. No. 30,300  
Customer No. 52835

Date: July 1, 2008

DPM/gmd

TO: Auto-reply fax to 612-455-3801 COMPANY:



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3052008 12:12 612-455-3801 1001100 Page 1/9	
 <b>HAMRE, SCHUMANN, MUELLER &amp; LARSON, P.C.</b> <small>AN INDEPENDENT INTELLECTUAL PROPERTY LAW FIRM</small>	
<b>FAX TRANSMISSION</b> May 20, 2008	
<b>TO:</b> Mail Stop: AMENDMENT Examiner: Prod, Michael C. Correspondent: Prod PO Box 1450 Alexandria, VA 22313-1450	<b>FROM:</b> Carla B. Hamre  OUR REF: 200104007USWO TELEPHONE: (612) 455-2800
Total pages, including cover letter: 9  FAX FAX NUMBER: 571 220 0000  If all pages are NOT received, please call us at 612-455-3800 or fax us at 612-455-3801.  THIS TRANSMISSION: Amendment and Response (7 pages); Petition for Extension of Time (1 page)	
Applicant: ERIC AND S.L. Serial No.: 10594697 App. Filed: September 28, 2005 Group Art No.: 1633	
Please charge Deposit Account No. 60-3-079 to the amount of \$1,000 for 3 months in front of due date. Please charge any additional fees or credit overpayment to Deposit Account No. 30-0478. Please consider filing a PETITION FOR EXTENSION OF TIME for a sufficient number of days to cover these pages. It is your responsibility to file this petition if you do not receive a response within the time period.  <i>Carla B. Hamre</i> Name: Carla B. Hamre Reg. No.: 25,165	
I hereby certify that this paper is being transmitted by facsimile to the U.S. Patent and Trademark Office on the date shown below.  <i>Carla B. Hamre</i> <i>May 20, 2008</i>	
<small>2008 FAX TRANSMISSION 05/20/2008 12:12:02 PM - 612-455-3801        1001100 612-455-3801 571 220 0000        05/20/2008 12:12:02 PM 612-455-3801</small>	

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**HAMRE, SCHUMANN,  
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FAX TRANSMISSION May 20, 2008

TO: Mail Stop: AMENDMENT  
Examiner: Flood, Michele C.  
Commissioner for Patents  
PO Box 1450  
Alexandria, VA 22313-1450

FROM: Curtis B. Hamre

OUR REF: 20010.0007USWO

TELEPHONE: (612) 455.3800

Total pages, including cover letter: 9

PTO FAX NUMBER: 571.273.8300

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Title of Document: **Amendment and Response (7 pages); Petition for Extension of Time  
(1 page)**

Applicant: BRIAND et al.  
Serial No.: 10/594692  
App. Filed: September 28, 2006  
Group Art No.: 1655

Please charge Deposit Account No. 50-3478 in the amount of \$1,050 for 3 month extension of time. Please charge any additional fees or credit overpayment to Deposit Account No. 50-3478. Please consider this a PETITION FOR EXTENSION OF TIME for a sufficient number of months to enter these papers, if appropriate.

By: Curtis B. Hamre  
Name: Curtis B. Hamre  
Reg. No.: 29,165

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Tracy Kimmel  
Signature

May 20, 08  
Date

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S/N 10/594,692

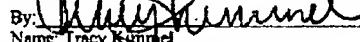
PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Briand et al.	Examiner:	Flood, Michele C.
Serial No.:	10/594,692	Group Art Unit:	1655
Filed:	May 31, 2007	Docket No.:	20010.0007USWO
Title:	ULVANS AS ACTIVATORS OF PLANT DEFENSE AND RESISTANCE REACTIONS AGAINST BIOTIC OR ABIOTIC STRESSES (As Amended)		

CERTIFICATE UNDER 37 CFR 1.6(d):

I hereby certify that this paper is being transmitted by facsimile to the U.S. Patent and Trademark Office on May 20, 2008.

By:   
Name: Tracy Kunkel

Mail Stop Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

AMENDMENT & RESPONSE

Dear Sir:

In response to the Office Action mailed November 20, 2007, please amend the above-identified application as follows:

Amendments to the specification are reflected on page 2 of this paper.

Amendments to the claims are reflected in the listing of claims that begins on page 3 of this paper.

Remarks begin on page 5 of this paper.

App. No. 10/594,692  
Office Action Dated May 31, 2007

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Amendments to the Specification

Please replace the title with the following:

USE OF ULVANS AS ACTIVATORS OF PLANT DEFEN[[C]]SE AND RESISTANCE  
REACTIONS AGAINST BIOTIC OR ABIOTIC STRESSES

App. No. 10/594,692  
Office Action Dated May 31, 2007

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**Amendments to the Claims:**

This listing of claims will replace all prior versions and listing of claims in the application.

Claims 1-5 and 9-10 are canceled without prejudice or disclaimer.

Claims 11-17 are new.

**Listing of Claims:**

1-5. (Canceled)

6. (Currently Amended) A method for activating plant defense and resistance reactions against biotic or abiotic stresses, wherein it comprising: [[es]] the application administering, to said plants, of an effective amount of (1) ulvans, in particular extracted from green algae of the genus *Ulva* or *Enteromorpha*, or of (2) a reaction product obtained from the treatment of green algae of the genus *Ulva* or *Enteromorpha* by hydrolysis or enzymatic hydrolysis ulvan-derived oligosaccharides.

7. (Currently Amended) The method as claimed in claim 6, wherein the application administering to the plants is carried out via the leaves or via the roots.

8. (Currently Amended) The method as claimed in claim 6, wherein the effective amount given to the plants is from 0.1 g to 100 g per liter, and preferably of the order of 1 g per liter, when applied in liquid form via the leaves, in nutritive solutions for the roots (hydroponics, dropwise, etc.) or in solutions for seed or post-harvest treatment, or else from 10 to 1000 g per hectare, and preferably of the order of 200 g per hectare, when applied in solid form in pulverulent or granulated products.

9-10. (Canceled)

11. (new) The method as claimed in claim 8, wherein the nutritive solutions for the roots is hydroponics or dropwise.

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Office Action Dated May 31, 2007

12. (new) A method of using an amount of (1) ulvans extracted from green algae of the genus *Ulva* or *Enteromorpha* or (2) a reaction product obtained from the treatment of green algae of the genus *Ulva* or *Enteromorpha* by hydrolysis or enzymatic hydrolysis, sufficient for protecting a plant, comprising:

determining an amount of extracted ulvans or the reaction product sufficient to stimulate expression of genes involved in plant protection; and

preparing the extracted ulvans or the reaction product for delivering the extracted ulvans or the reaction product to the plant.

13. (new) A method according to claim 12, wherein determining the amount of the extracted ulvans or the reaction product includes

selecting at least one gene of the plant that facilitates protection of the plant and determining expression levels of the at least one gene in the plant relative to the amount of the extracted ulvans or the reaction product administered to the plant.

14. (new) A method according to claim 12, wherein the ulvans extracted from algae are chosen from the group consisting of the following species: *Ulva armoricana*, *Ulva rigida*, *Ulva rotundata*, *Ulva lactuca*, *Enteromorpha intestinalis*, and *Enteromorpha compressa*.

15. (new) A method according to claim 14, wherein the ulvans extracted from algae are chosen from the group consisting of the following species: *Ulva armoricana*, *Enteromorpha intestinalis* and *Enteromorpha compressa*

16. (new) A method according to claim 12, wherein the extracts are obtained by a method including: washing, milling, and solid-liquid separation.

17. (new) A method according to claim 16, wherein the method of obtaining the extracts further comprises fractionation and concentration.

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Office Action Dated May 31, 2007

**REMARKS**

Favorable reconsideration is respectfully requested in view of the above amendments and following remarks. The specification has been amended to address formal issues. Claims 1-5 and 9-10 have been canceled without prejudice or disclaimer. Claims 6-8 have been amended. The limitation in claim 6 concerning the reaction product is supported by for example previous claim 4 and page 6, lines 10-12 of the specification. Claims 7-8 have been amended editorially. Claims 11-17 are new. Claim 11 is supported for example by previous claim 8 and page 6, line 21 of the specification. Claim 12 is supported for example by page 6, lines 24-29 and Example 2 of the specification. Claim 13 is supported for example by Example 2 of the specification. Claims 14 and 15 are supported for example by previous claim 2 and page 5, lines 19-22 of the specification. Claims 16 and 17 are supported for example by previous claim 3 and page 6, lines 1-5 of the specification. No new matter has been added. Claims 6-8 and 11-17 are pending.

***Claim Rejections – 35 USC §112/§101***

Claims 1-5 have been rejected under 35 USC 101 and 35 USC 112, first paragraph, for being indefinite and because the claimed recitation of a use results in an improper definition of a process. The rejection is rendered moot, as the previous claims have been canceled. Applicants respectfully submit that the new claims are definite and in proper form.

***Claim Rejections – 35 USC §112***

Claims 6-10 are rejected under 35 USC 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 6-8 have been amended, taking the issues noted in the rejection into account. Therefore, Applicants respectfully submit that claims 6-8 are definite.

***Claim Rejections – 35 USC §102***

Claims 1-10 are rejected under 35 USC 102(b) as being anticipated by Narin et al. made evident by the teachings of Lahaye et al. (WW; Lahaye, M. et al. Carbohydrate Research, (1994), 262: 115-125. *Chemical characteristics of insoluble glucans from the cell wall of the marine green alga Ulva lactuca (L.) Thuret.*) and Bi et al. (UU; Bi, F. et al. Pak. J. Bot. (1999), 31(1): 193-198. *Studies on aqueous extracts of three green algae as an elicitor of plant defence mechanism.*). Applicants respectfully traverse the rejection.

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Office Action Dated May 31, 2007

Claim 6 is directed to a method for activating plant defense and resistance reactions against biotic or abiotic stresses. Claim 6 requires the step of administering to plants, an effective amount of (1) ulvans extracted from green algae of the genus *Ulva* or *Enteromorpha* or (2) a reaction product obtained from the treatment of green algae of the genus *Ulva* or *Enteromorpha* by hydrolysis or enzymatic hydrolysis. Advantageously, the method prevents losses in yield and a reduction in production quality by protecting against biotic and abiotic stresses, which are present when plants are grown in the field.

Narin is directed to agents which promote the growth of plants in tissue culture, and more particularly, to an anti-vitrification agent. The rejection takes the position that vitrification corresponds to the biotic stresses of claim 6. However, as noted by Narin, vitrification is a very specific phenomenon which is only observed in tissue culture. On the other hand, claim 6 is directed to stresses that are present in the natural environment, as opposed to an *in vitro* environment, during the growth of the plants. Nothing in the reference teaches or even suggests biotic stresses or inoculating the plant with a pathogen. In fact, the reference specifically indicates that the effect of vitrification is obtained by the addition of a chemical compound, as opposed to a pathogen. Accordingly, claim 6 and the dependent claims therefrom are not anticipated by Narin for at least these reasons.

The rejection contends that Bi teaches a method for activating plant defense and resistance against biotic or abiotic stresses comprising applying an effective amount of a powdered extract of *Ulva lactulus* in liquid form to chickpea cotyledons. The rejection further contends that the ulvan was obtained by washing, milling, and sequential extraction in water, dilute sodium hydroxide and hydrochloric acid and ethanol precipitation and freeze-drying, as well as acid hydrolysis.

The rejection seems to assume that the extraction method taught by Bi would result in an effective amount of ulvans for activating plant defense and resistance reactions against biotic or abiotic stresses. However, nothing in Bi teaches or even suggests the composition of the extract, let alone the presence of ulvans. In fact, the method taught by Bi is applied generally to *Codium elongatum* as well as *Caulepra texiflora*. However, neither *Codium elongatum* nor *Caulepra texiflora* even contain any ulvans. Therefore, the reference is far from even identifying the effects of ulvans, let alone teaching or even suggesting the

App. No. 10/594,692  
Office Action Dated May 31, 2007

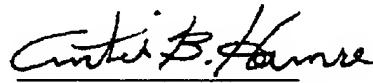
administration of an effective amount of ulvans or the reaction product to activate plant defense and resistance reactions against biotic or abiotic stresses as required by claim 6. Accordingly, claim 6 and the dependent claims therefrom are not anticipated by Bi for at least these reasons.

Claims 9 and 10 are rejected under 35 USC 102(b) as being anticipated by Paradossi et al. (VV; Paradossi, G. et al. *Macromolecules* (2002); 35: 6404-6411. A conformational study on the algal polysaccharide ulvan.) and Lahaye et al. (N). The rejection is rendered moot, as claims 9 and 10 are canceled. Applicants do not concede the correctness of the rejection. Withdrawal of the rejection is respectfully requested.

In view of the above, favorable reconsideration in the form of a notice of allowance is requested. Any questions or concerns regarding this communication can be directed to the attorney-of-record, Douglas P. Mueller, Reg. No. 30,300, at (612) 455.3804.

Respectfully Submitted,

Dated: May 20, 2008



Curtis B. Hamre  
Reg. No.: 29,165  
Hamre, Schumann, Mueller & Larson, P.C.  
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CBH/DPM/ym





## UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/594,692	05/31/2007	Xavier Briand	20010.0007USWO	9463
52835	7590	06/27/2008	EXAMINER	
HAMRE, SCHUMANN, MUELLER & LARSON, P.C.			FLOOD, MICHELE C	
P.O. BOX 2902			ART UNIT	PAPER NUMBER
MINNEAPOLIS, MN 55402-0902			1655	
			MAIL DATE	DELIVERY MODE
			06/27/2008	PAPER



Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

*Reuire Appn 7/27/2008*

✓D

<b>Notice of Abandonment</b>	Application No.	Applicant(s)
	10/594,692	BRIAND ET AL.
	Examiner Michele Flood	Art Unit 1655

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--*

This application is abandoned in view of:

1.  Applicant's failure to timely file a proper reply to the Office letter mailed on 20 November 2007.
  - (a)  A reply was received on \_\_\_\_\_ (with a Certificate of Mailing or Transmission dated \_\_\_\_\_), which is after the expiration of the period for reply (including a total extension of time of \_\_\_\_\_ month(s)) which expired on \_\_\_\_\_.
  - (b)  A proposed reply was received on \_\_\_\_\_, but it does not constitute a proper reply under 37 CFR 1.113 (a) to the final rejection. (A proper reply under 37 CFR 1.113 to a final rejection consists only of: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114).
  - (c)  A reply was received on \_\_\_\_\_ but it does not constitute a proper reply, or a bona fide attempt at a proper reply, to the non-final rejection. See 37 CFR 1.85(a) and 1.111. (See explanation in box 7 below).
  - (d)  No reply has been received.
2.  Applicant's failure to timely pay the required issue fee and publication fee, if applicable, within the statutory period of three months from the mailing date of the Notice of Allowance (PTOL-85).
  - (a)  The issue fee and publication fee, if applicable, was received on \_\_\_\_\_ (with a Certificate of Mailing or Transmission dated \_\_\_\_\_), which is after the expiration of the statutory period for payment of the issue fee (and publication fee) set in the Notice of Allowance (PTOL-85).
  - (b)  The submitted fee of \$\_\_\_\_\_ is insufficient. A balance of \$\_\_\_\_\_ is due.
 

The issue fee required by 37 CFR 1.18 is \$\_\_\_\_\_. The publication fee, if required by 37 CFR 1.18(d), is \$\_\_\_\_\_.
  - (c)  The issue fee and publication fee, if applicable, has not been received.
3.  Applicant's failure to timely file corrected drawings as required by, and within the three-month period set in, the Notice of Allowability (PTO-37).
  - (a)  Proposed corrected drawings were received on \_\_\_\_\_ (with a Certificate of Mailing or Transmission dated \_\_\_\_\_), which is after the expiration of the period for reply.
  - (b)  No corrected drawings have been received.
4.  The letter of express abandonment which is signed by the attorney or agent of record, the assignee of the entire interest, or all of the applicants.
5.  The letter of express abandonment which is signed by an attorney or agent (acting in a representative capacity under 37 CFR 1.34(a)) upon the filing of a continuing application.
6.  The decision by the Board of Patent Appeals and Interference rendered on \_\_\_\_\_ and because the period for seeking court review of the decision has expired and there are no allowed claims.
7.  The reason(s) below:

No timely response has been filed; and, no additional fees have been paid. Therefore, this case is abandoned.

/Michele Flood/  
Primary Examiner, Art Unit 1655

Petitions to revive under 37 CFR 1.137(a) or (b), or requests to withdraw the holding of abandonment under 37 CFR 1.181, should be promptly filed to minimize any negative effects on patent term.